

Notice of Allowability

Application No.

09/816,941

Examiner

Thoi V. Duong

Applicant(s)

KITSON ET AL.

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed June 26, 2007.
2. ☒ The allowed claim(s) ~~is~~ are 1-7, 9, 11, 28, 29, 34-41, 46, 47 and 49-71.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date 6/26/07
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

1. This office action is in response to the Amendment filed June 26, 2007.

Accordingly, claims 1, 9, 11, 34 and 41 were amended, claims 8, 10, 12-27, 30-33, 42-45 and 48 were cancelled, and new claims 50-71 were added. Currently, claims 1-7, 9, 11, 28, 29, 34-41, 46, 47 and 49-71 are pending in this application.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

In the claims:

Claim 1: in line 8, after "structure comprises a", delete "two dimensional" and insert --two-dimensional--.

Claim 11: in line 5, after "structure comprises a", delete "two dimensional" and insert --two-dimensional--.

Claim 34: in line 8, after "structure comprises a", delete "two dimensional" and insert --two-dimensional--.

Claim 63: in line 3, after "surface of said", delete "first".

In the specification: in line 9, delete "Figure 12 shows" and insert --Figures 12a-12c show--; and

in line 12, delete "Figure 13 shows" and insert --Figures 13a-13d show--.

In the title: change the title as "Liquid crystal device comprising alignment posts having a random or pseudorandom spacing therebetween."

Allowable Subject Matter

3. Claims 1-7, 9, 11, 28, 29, 34-41, 46, 47 and 49-71 are allowed.

The following is an examiner's statement of reasons for allowance: none of the prior art of record fairly suggests or shows all of the limitations as claimed. Specifically,

Re claims 1, 11 and 34, none of the prior art of record discloses, in combination with other limitations as claimed, a liquid crystal device comprising a surface alignment structure on an inner surface of at least said first cell wall, providing a single desired uniform alignment to a liquid crystal director,

wherein said alignment is selected from the group consisting of planar, tilted and homeotropic;

wherein said surface alignment structure comprises a two dimensional array of alignment posts having a random or pseudorandom spacing therebetween; and

wherein said alignment posts are formed from a material selected from the group consisting of a photoresist material and a plastics material, and are shaped and oriented to produce the desired alignment.

The most relevant reference, US 6,519,018 B1 to Samant et al. (Samant), fails to disclose or suggest the alignment posts having a random or pseudorandom spacing therebetween. As shown in Figs. 2 and 3, Samant only discloses a surface alignment structure 34 providing a single desired uniform alignment to a liquid crystal director,

wherein said alignment is selected from the group consisting of planar, tilted and homeotropic; and

wherein said surface alignment structure comprises a two dimensional array of alignment posts 34 (pillars) which are formed from a material selected from the group consisting of a photoresist material and a plastics material, and which are shaped and oriented to produce the desired alignment (col. 2, lines 43-58; col. 4, lines 35-63; col. 5, lines 30-35; and col. 6, lines 60-64).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thoi V. Duong whose telephone number is (571) 272-2292. The examiner can normally be reached on Monday-Friday from 8:30 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms, can be reached at (571) 272-1787.

Thoi V. Duong – Primary Examiner

October 16, 2007

